

9/12

290 Claims

295

300

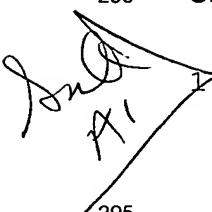
305

310

315

320

325



1. An arrangement enabling a liquid (2) to flow evenly around a surface of a sample (3), said arrangement comprising
 - a flow chamber (1) having said liquid (2) flowing therethrough,
 - a sample (3) located at least in part in said flow chamber (1) and rotatable about an axis of rotation by means of a rotary drive (5),
 - inflow and outflow pipes (7, 8) each extending to opposite ends of the flow chamber (1) from inflow and outflow containers (9, 10), respectively,
 - an inflow tube (11) terminating in inflow container (9),
 - an outflow tube (12) beginning in outflow container (10),
 - means (20) for generating a flow, and
 - filters (13) arranged in the inflow and/or outflow container (9, 10) or in the inflow and outflow pipes (7, 8), respectively, and having the liquid (2) flowing therethrough.
2. An arrangement according to claim 1, wherein the size and the number of the filter pores (24) is set to be varying across the overall filter area such that a pressure differential between inflow/outflow pipes (7, 8) arranged at different distances from inflow/outflow tube (11, 12), which causes non-uniform flow through said pipes (7, 8), is compensated by different overall pore areas associated with the individual pipes (7, 8).
3. An arrangement according to claim 1 or 2 for electro-depositing or electro-removing material on or from the surface of the sample (3), comprising an elec-

10/12

WT
PT

330

trode (6) in the flow chamber (1), wherein the liquid (2) is an electrolyte and wherein the sample (3) and the electrode (6) are connected to a pulsating or constant current source.

4. An arrangement according to claim 3 for electro-depositing or electro-removing material on or from the surface of the sample, wherein

335 - the flow chamber (1) has two planar confining walls arranged parallel to the direction of flow and having a first and a second recess, respectively,

340 - the sample (3) has a substantially planar surface having said axis of rotation arranged perpendicularly thereto,

345 - the sample (3) covers the first recess and said planar surface defines a plane with the associated confining wall, and

 - the electrode (6) covers the second recess with a planar surface and defines a plane with the associated confining wall.

5. An arrangement according to claim 4, wherein the electrode (6) has a grid basket (15) of electrochemically inert material that is filled with the material (14) to be deposited in granular form and has a planar surface containing holes.

350

6. An arrangement according to claim 4, wherein the electrode (6) consists of a metal body having a planar surface and coated with platinum or another noble metal.

355

7. An arrangement according to claims 1 to 6, wherein the inflow and/or outflow tube (11, 12) extends via a throttle valve (16) into a supply con-

360

11/12

365
Cont'd
370

tainer (17) filled with liquid (2), said supply container (17) having means for filtering (21) as well as for regulating the temperature (19), the pH value, the filling level and optionally also the ion concentration of the liquid (2).

8. The use of the arrangement according to claims 5 to 7 for depositing a layer of a nickel/iron alloy on a silicon or ceramic wafer (3), the alloy composition and the intrinsic mechanical stress of the layer being homogeneous across the wafer (3).

375 9. The use of the arrangement according to claims 1 to 7 for applying electrophoretic photoresist to a wafer (3).

380 10. The use of the arrangement according to claim 1 or 2 for electroless deposition of material on the surface of the sample.

385 11. The use of the arrangement according to claim 1 or 2 for removing material from the surface of the sample, with the liquid used being an etching solution.

Add 385
AR